

**National Transportation Safety Board
Washington, DC 20594**

Brief of Accident

Adopted 01/16/2003

DEN02LA098		08/20/2002		Broomfield, CO		Aircraft Reg No. N7508L		Time (Local): 11:20 MDT			
Make/Model:		Schweizer / 269C				Fatal		Serious		Minor/None	
Engine Make/Model:		Lycoming / HIO-360-D1A				Crew		0		0	
Aircraft Damage:		Substantial				Pass		0		0	
Number of Engines:		1									
Operating Certificate(s):		None									
Type of Flight Operation:		Instructional									
Reg. Flight Conducted Under:		Part 91: General Aviation									
Last Depart. Point:		Same as Accident/Incident Location				Condition of Light:		Day			
Destination:		Local Flight				Weather Info Src:		Weather Observation Facility			
Airport Proximity:		On Airport				Basic Weather:		Visual Conditions			
Airport Name:		Jeffco				Lowest Ceiling:		8000 Ft. AGL, Broken			
Runway Identification:		Unk/Nr				Visibility:		10.00 SM			
Runway Length/Width (Ft):		7004 / 50				Wind Dir/Speed:		070 / 010 Kts			
Runway Surface:		Asphalt				Temperature (°C):		30			
Runway Surface Condition:		Dry				Precip/Obscuration:		None / None			
Pilot-in-Command		Age: 34		Flight Time (Hours)							
Certificate(s)/Rating(s)						Total All Aircraft:		2218			
Flight Instructor; Commercial; Helicopter						Last 90 Days:		202			
Instrument Ratings						Total Make/Model:		707			
Helicopter						Total Instrument Time:		77			

The student was practicing autorotations in preparation for taking his rotorcraft-helicopter practical flight test the following day. With his instructor on board, the student had successfully performed two "full down" autorotations. As he completed the third autorotation, they heard a loud noise and the helicopter settled toward the left rear, enough that the tail rotor struck the asphalt taxiway. Postaccident inspection disclosed that the bolt that attaches the left rear oleo strut to the crossbeam was missing. The tail rotor blades were damaged, the tail rotor driveshaft was twisted, and the splined end was separated from the main transmission. Maintenance records indicated the helicopter had accrued 5.1 hours since the last 50-hour inspection, at which time the landing gear struts had been overhauled and the skid shoes replaced.

Brief of Accident (Continued)

DEN02LA098				
File No. 12602	08/20/2002	Broomfield, CO	Aircraft Reg No. N7508L	Time (Local): 11:20 MDT

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: STANDING - ENGINE(S) OPERATING

Findings

1. (C) MISCELLANEOUS,BOLT/NUT/FASTENER/CLAMP/SPRING - NOT SECURED
2. (C) MAINTENANCE,100-HOUR INSPECTION - INADEQUATE - OTHER MAINTENANCE PERSONNEL
3. LANDING GEAR,SKID ASSEMBLY - COLLAPSED
4. ROTOR DRIVE SYSTEM,TAIL ROTOR DRIVE SHAFT - TWISTED

Findings Legend: (C) = Cause, (F) = Factor

The National Transportation Safety Board determines the probable cause(s) of this accident as follows.
maintenance personnel's failure to secure the landing skid oleo strut bolt during the last 50-hour inspection, causing the left rear skid to collapse and the tail rotor to strike the ground.